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EXAMINER	
BELLAMY, TAMIKO D	

ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 01/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/661,693	KOWALSKI, KENNETH H.	
	Examiner	Art Unit	
	Tamiko D. Bellamy	2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11/7/05*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-7,14-18,20 and 22-35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-7,14-18,20 and 22-35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant should submit an argument under the heading "Remarks" pointing out disagreements with the examiner's contentions. Applicant must also discuss the references applied against the claims, explaining how the claims avoid the references or distinguish from them.

Claim Objections

2. Claim 29 is objected to because of the following informalities:

a. Claim 29, line 2, change "sate" to –state--.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 5-7, 20, 25, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over McGoldrick (3,992,941) in view of Mulrooney et al. (6,588,272).

Re to claim 5, as depicted in fig. 1, McGoldrick discloses a float (e.g., hollow plunger 15) within a tank/container (1). McGoldrick discloses a plurality of magnetic reed switches (37) connected to corresponding LED's (40', 41"). McGoldrick discloses a plurality of lights (40', 40") electrically connected to switches (37) that are turned on or off as the magnetic field (e.g., via means of activating magnet 38) passes the switches. While, McGoldrick lacks the detail of a float that is external to the tank, the device of

McGoldrick would operate equally as well with a stem that is fluidically coupled to a tank that contains a float. If McGoldrick's float were placed in a stem, it would still rise and fall with the level of fluid within the stem. Mulrooney et al. discloses in figs. 1 and 2, an external float (e.g., a float 44 with a magnet 48) within a pipe (34) that is external to a tank/vessel (22) and activating a plurality of magnetic switches (50). Therefore, to modify McGoldrick by employing a float external to the tank would have been obvious to one of ordinary skill in the art at the time of the invention since Mulrooney et al. teaches a level measurement system having theses design characteristics. The skilled artisan would be motivated to combine the teachings of McGoldrick and Mulrooney et al. and since McGoldrick states that his invention is applicable to measuring the liquid level of tank and Mulrooney et al. is directed to measuring level of fluid within a stem/handle coupled to a tank/vessel.

Re claim 6, McGoldrick discloses that as the magnetic field (e.g., activating magnet 38) moves upward the past the middle stack of switches (37) (past switch 41) the lower part of the right hand column of lights and the upper part of the left hand column energized (Col. 6, lines 50-58). The energized lower right hand column of lights (40") having a light turned on, and the lower left column of lights (40'), which is not lit (turned off). While, McGoldrick does not specifically disclose first lights having a first color and second lights a different color, the selection of color is a design choice clearly in the purview of one having ordinary skill in the art. Therefore, to employ McGoldrick on first lights that are a first color and second lights having a second color different from the first color would have been obvious to one of ordinary skill in the art at the time of the

invention since this reference explicitly teaches explicitly teaches a liquid level sensor with a visible indicator having a pair of lights corresponding to a single switch and on of the pair of lights are energized depending on the state of the switch.

Re claim 7, McGoldrick discloses that as the magnetic field (e.g., activating magnet 38) moves upward past the middle stack of switches (37) (past switch 41) the lower part of the right hand column of lights and the upper part of the left hand column are energized (Col. 6, lines 50-58). While McGoldrick does not specifically disclose that the first lights are red and the second lights are green, McGoldrick discloses that the first lights (e.g., left column lights 40') and second lights (e.g., right column of lights 40") are energized/lit depending on the state of the switch. Furthermore, the selection of a color is a design choice clearly in the purview of one having ordinary skill in the art. Therefore, to employ McGoldrick on first lights that are red and second lights that are green would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a liquid level sensor with a visible indicator having a pair of lights corresponding to a single switch and on of the pair of lights are energized depending on the state of the switch.

Re claim 20, as depicted in fig. 1, McGoldrick discloses moving a magnetic field (e.g. activating magnet 38 external to the tank (1) past a series of magnetically actuatable switches (37) connected with a series of lights (40', 40") in response to rise and fall of the liquid level in the tank (Col. 6, lines 30-58). McGoldrick discloses actuating one of the switches (37) with the moving magnetic field; and turning on or off lights in response to actuation of the switch. As depicted in fig. 1, McGoldrick discloses the series of lights

(40', 40") includes rows of lights (40', 40") each row including at least two lights. McGoldrick discloses wherein said step of turning a light on or off in response to actuation of the switch comprises turning one light of the at least two lights (40', 40") on and the other light of the at least two lights off (Col. 6, lines 30-58). While, McGoldrick does not specifically disclose the two lights of different colors, the selection of color is a design choice clearly in the purview of one having ordinary skill in the art. Therefore, to employ McGoldrick on first lights that are a first color and second lights having a second color different from the first color would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches explicitly teaches a liquid level sensor with a visible indicator having a pair of lights corresponding to a single switch and on of the pair of lights are energized depending on the state of the switch.

Re claim 25, McGoldrick discloses that as the magnetic field (e.g., activating magnet 38) moves upward the past the middle stack of switches (37) (past switch 41) the lower part of the right hand column of lights and the upper part of the left hand column energized (Col. 6, lines 50-58). The energized lower right hand column of lights (40") having a light turned on, and the lower left column of lights (40'), which is not lit (turned off). While, McGoldrick does not specifically disclose first and second visible indicators of different colors, the selection of color is a design choice clearly in the purview of one having ordinary skill in the art. Therefore, to employ McGoldrick on first and second visible indicators of different colors would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches explicitly teaches

a liquid level sensor with a visible indicator having a pair of lights corresponding to a single switch and on of the pair of lights are energized depending on the state of the switch.

Re to claim 35, as depicted in fig. 1, McGoldrick discloses a float (e.g., hollow plunger 15) within a tank/container (1). McGoldrick discloses a plurality of magnetic reed switches (37) are activated as the magnetic field (e.g., via means of activating magnet 38) passes the switches.). McGoldrick discloses a plurality of lights (40', 40") are electrically connected to the switches (37); and the switches are switched between a first visible state and a second visible state as the magnetic field (e.g., activating magnet 38) passes the switches (37) (Col. 6, lines 30-58). While, McGoldrick lacks the detail of a float that is external to the tank, the device of McGoldrick would operate equally as well with a stem that is fluidically coupled to a tank that contains a float. If McGoldrick's float were placed in a stem, it would still rise and fall with the level of fluid within the stem. Mulrooney et al. discloses in figs. 1 and 2, an external float (e.g., a float 44 with a magnet 48) within a pipe (34) that is external to a tank/vessel (22) and activating a plurality of magnetic switches (50). Therefore, to modify McGoldrick by employing a float external to the tank would have been obvious to one of ordinary skill in the art at the time of the invention since Mulrooney et al. teaches a level measurement system having theses design characteristics. The skilled artisan would be motivated to combine the teachings of McGoldrick and Mulrooney et al. and since McGoldrick states

that his invention is applicable to measuring the liquid level of tank and Mulrooney et al. is directed to measuring level of fluid within a stem/handle coupled to a tank/vessel.

5. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over McGoldrick (3,992,941).

Re claim 18, McGoldrick discloses reed switches (37). While McGoldrick lacks the detail of a using Hall effect transistor type of switch, the replacement in the type of which requires a minimum skill in the art and is a design consideration clearly in the preview of one having ordinary skill in the art. Therefore, to employ McGoldrick on switches that are Hall effect transistors would have been obvious to one of ordinary skill in the art at the time of the invention since this reference explicitly teaches a liquid level sensor using magnetically activated switches.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 14-17, 22-24, and 26-34 are rejected under 35 U.S.C. 102(b) as being anticipated by McGoldrick (3,992,941).

Re claim 14, as depicted in fig. 1, McGoldrick discloses a plurality of magnetically actuatable switches that are actuatable as the magnetic field passes said switches. McGoldrick discloses an electrically actuated visible indicator electrically

connected with said switches and that is selectively actuatable as the magnetic field passes the switches (37) and a remote readout (e.g., lights 39 of display 33) that is electrically connected with said switches (37) for indicating remotely from the tank the level of liquid in the tank. McGoldrick discloses the electrically actuated visible indicator comprises a plurality of lights (40', 40") that are selectively turned on and off as the magnetic field passes said switches. As depicted in fig. 1, McGoldrick discloses the lights are arranged in pairs, and in each pair, one and only one of said lights is on (Col. 6, lines 30-58).

Re claim 15, as depicted in fig. 1, McGoldrick discloses two lights (40', 40") in each one of said pairs are of a different colors (Col. 6, lines 50-58).

Re claim 16, as depicted in fig. 1, McGoldrick discloses a plurality of LED'S (40', 40") on said circuit board arranged in a series of rows, each row having at least two LED's (40', 40"). McGoldrick discloses a plurality of magnetically actuatable switches (37) on said circuit board and associated in a one to one relationship with said rows of LED's. As depicted in fig. 1, McGoldrick discloses the circuit board adapted to be mounted adjacent a container of liquid (e.g., tank 1). McGoldrick discloses the switches being actuatable serially as the liquid level in the container rises and falls thereby to turning said LED'S on or off (Col. 6, lines 30-58).

Re claim 17, McGoldrick discloses that as the magnetic field (e.g., activating magnet 38) moves upward the past the middle stack of switches (37) (past switch 41) the lower part of the right hand column of lights and the upper part of the left hand column energized (Col. 6, lines 50-58). The energized lower right hand column of lights (40")

having a light with a brightness, and the lower left column of lights (40'), which is not lit, is equivalent to LED's of different colors associated with the plurality of switches. McGoldrick discloses only one of said LED'S in each row is turned on at a time (Col. 6, lines 30-58).

Re claim 22, as depicted in fig. 1, McGoldrick a first indicator means (e.g., light 40') having a first visible state for indicating visibly the amount of the span that is above the magnetic field. McGoldrick discloses a second indicator means (e.g., light 40") having a visible state different from the first visible state for indicating visibly the amount of the span that is above the magnetic field (See Col. 6, lines 30-55). McGoldrick discloses a means (e.g., activating magnet 38) for changing the visible state of the first indicator means (40') and the second indicator means (40").

Re claim 23, as depicted in fig. 1, McGoldrick discloses the first indicator means comprises a first plurality of visible indicators (40') in a first array and said second indicator means (40") comprises a second plurality of visible indicators in a second array.

Re claim 24, McGoldrick discloses the first of the first plurality of indicators (e.g., lights 40') have a visible state that is different from the second plurality of plurality of indicators (e.g., lights 40") (Col. 6, lines 50-58).

Re claim 26, as depicted in fig. 1, McGoldrick discloses a first indicator (e.g., light 40') responsive to change in the magnetic field caused by the movement of the magnetic field (e.g., activating magnet 38) over the span adjacent to the first indicator (e.g., light 40'), and the first indicator (e.g., light 40') having a first visible state for indicating visibly the amount of the span that is above the magnetic field. McGoldrick

discloses a second indicator (e.g., light 40") responsive to change in the magnetic field caused by the movement of the magnetic field (e.g., activating magnet 38) vertically over the span adjacent to the second indicator (e.g., light 40"), and the second indicator (e.g., light 40") having a visible state different from the first visible state for indicating visibly the amount of the span that is above the magnetic field (See Col. 6, lines 30-55).

Re claim 27, as depicted in fig. 1, McGoldrick discloses the first indicator (e.g., light 40') has a variable length proportional to the amount of the span that is above the magnetic field and the second indicator (e.g., light 40") has a variable length proportional to the amount of the span that is below the magnetic field. (Col. 6, lines 50-58).

Re claim 28, McGoldrick discloses the first visible state of the first indicator (e.g., light 40') is a first illuminated state and wherein the first visible state of the second indicator (e.g., light 40") is a second illuminated state different from the first illuminated state (Col. 6, lines 50-58).

Re claim 29, McGoldrick discloses that as the magnetic field (e.g., activating magnet 38) moves upward the past the middle stack of switches (37) (past switch 41) the lower part of the right hand column of lights and the upper part of the left hand column are energized (Col. 6, lines 50-58). The energized lower right hand column of lights (40") will inherently have a light with brightness, which is equivalent to a first illuminated state with a first color. The lower left column of lights (40'), which is not lit, is equivalent to a second illuminated state with a second color.

Re claims 30-33, as depicted in fig 1., McGoldrick discloses at least two adjacent sets of electrically actuatable latching visible indicators (e.g., lights 40', 40") forming

pairs of at least two visible indicators, the visible indicators in the first set being actuatable by the magnetic field (e.g., activating magnet 38) to a first visible state and the visible indicators in the second set being actuatable by the magnetic field to a second visible state different from the first visible state. McGoldrick discloses all of the electrically actuatable visible indicators being latchable so that a visible indicator maintains its visible state when the magnetic field moves away until another, subsequent, magnetic field causes the visible indicator to switch to another visible state (Col. 6, lines 30-58).

Re claim 34, as depicted in fig 1., McGoldrick discloses a set of switches (37) actuatable by the magnetic field (e.g., activating magnet 38). McGoldrick discloses a set of visible indicators (e.g., lights 40', 40") electronically actuatable by the switches to a first visible state or to a second visible state different from the first visible state. McGoldrick discloses the switches being latchable so that a visible indicator maintains its visible state when the magnetic field moves away until another, subsequent, magnetic field causes the visible indicator to switch to the other visible state. (Col. 6, lines 30-58).

Response to Remarks

8. Applicant's arguments with respect to claims 5-7,14-18, 20 and 22-35 have been considered but are moot in view of the new ground(s) of rejection. It is the examiners position that claims 5-7, 18, and 35 are not patentable in view of the newly applied art of McGoldrick (3,992,941) in view of Mulrooney et al. (6,588,272); and 14-17, 18, 20, 22-34 are not patentable in view of the newly applied art of McGoldrick (3,992,941).

9. The indicated allowability of claims 5-7, 14-18, 20, 22, 26, 30, 34, and 35 is withdrawn in view of the newly discovered reference(s) to claims. Rejections based on the newly cited reference(s) follow (See above rejections).

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tamiko D. Bellamy whose telephone number is (571) 272-2190. The examiner can normally be reached on Monday - Friday 7:30 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tamiko Bellamy
T.B.
January 4, 2005

CHARLES GARBER
PRIMARY EXAMINER